

UNCLASSIFIED UPON REMOVAL
OF CLASSIFIED ATTACHMENTS

January 2, 1981

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[Redacted]
CIA Historian
203 Key Building
Washington, D.C. 20505

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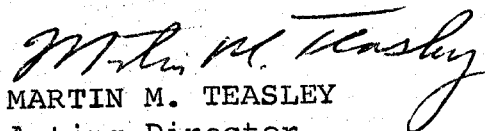
Dear [Redacted]

Dr. Jack Holl, Chief Historian, Department of Energy, has requested a copy of the following CIA classified document for use in preparing an unclassified history of the Atomic Energy Commission:

Memorandum, Herbert Scoville, to Director, Central Intelligence, May 11, 1957, (2 pp.) SECRET

We have, therefore, transmitted a copy of this memorandum to your office for review and release to Historian's Office, Department of Energy. You may communicate directly with Dr. Holl regarding this item. Please inform the Eisenhower Library of the action taken by the CIA on this document.

Sincerely,


MARTIN M. TEASLEY
Acting Director
Dwight D. Eisenhower Library

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C O P Y

~~SECRET~~

11 May 1957

MEMORANDUM FOR: Director, Central Intelligence
THROUGH : Deputy Director/Intelligence
SUBJECT : Effectiveness of Nuclear Test Detection System

1. This memorandum is for information only.
2. The present nuclear test detection system has a very high probability of detecting atomic tests with yields greater than 20 KT as long as the detonation occurs on or near the surface of the earth. As the yield is decreased below 20 KT, the certainty of detection falls off. The lowest yield Soviet test detected to date was about 3 KT. The probability of detecting shots with yields less than 1 KT is quite small.
3. If the height of burst is increased to altitudes above about 30,000 feet, the probability of collecting a sample of radioactive debris falls off so that at these high altitudes it might be difficult to prove that the explosion picked up by the acoustic system was really a nuclear test. For burst altitudes of 100,000 feet or greater, it is presently uncertain whether any acoustic signal will be detected. This point is scheduled to be checked in the next U. S. series of tests in the Pacific. However, for any nation to conduct a weapons development program by tests at these extreme altitudes is very unlikely.
4. At the present time, the United States detection system is aimed at tests within the USSR and therefore might have loopholes for detecting tests in the Southern Hemisphere. However, we believe that conventional intelligence would probably give an indication of any Soviet tests in these areas.
5. Some of the confusion as to the effectiveness of the test detection system has resulted from the statement in the Permuda Communique that "a test limitation agreement could not be effectively enforced for technical reasons nor could breaches of it be surely detected". This statement referred to the specific test limitation being discussed at that meeting; i.e., a test limitation on the numbers of megatons of fission products which could be released annually. Because of the great difficulty in measuring accurately the total fission products in the atmosphere, it is quite true that the violation of such a test limitation could not be proven.

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AUTH: HPL CO 2
DATE 16 Jan 81 REVIEWER:

~~SECRET~~

~~SECRET~~

SUBJECT: Effectiveness of Nuclear Test Detection System

Unfortunately the Bermuda statement has been rather broadly used without an understanding of the limited situation to which it applied.

6. In summary, I believe that we are reasonably certain of detecting all Soviet tests greater than 20 KT. On the other hand, I believe that the Soviets can not, with any reasonable degree of assurance, conduct a covert nuclear test of yield greater than a few KT.

HERBERT SCOVILLE, JR.
Assistant Director
Scientific Intelligence

~~SECRET~~

7 January 1980

MEMORANDUM FOR: Chief, CRD

FROM : CIA History Staff

SUBJECT : Request for declassification of
May 11, 1957 memo from Herbert
Scoville, Jr., to Director, CIA;
(attached)

The attached letter from the Acting Director of the Eisenhower Library and related documents are being forwarded to your office for declassification review. We request that, if possible the memo be declassified for use in the AEC unclassified history.

Following a decision by your officers to either retain or leave the classification of the document in question, the History Staff will notify the requestor of your ruling.

We would appreciate having your decision by 30 January, 1981.

STAT

CIA History Staff
203 Key Bldg.

Encs: a/s

Dist:

0-Addressee w/att

1-HS Chrono

2-File

SECRET

16 January 1981

MEMORANDUM FOR: CIA History Staff

ATTENTION:

FROM:

CRD, Intelligence Branch

SUBJECT: Request for Declassification of May 11, 1957 Memo
from Herbert Scoville, Jr., to Director, CIA

Upon examination by this reviewer and OSWR/NED officials, we are
pleased to tell you that the decision was reached to declassify the subject
document. You may proceed to notify the requestor of this decision.

ADMINISTRATIVE - INTERNAL USE ONLY

CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

23 January 1981

Dr. Jack Holl
Chief Historian
Department of Energy
Room 7G033
Forrestal Building
Washington, DC 20585

Dear Dr. Holl:

The CIA Historical Staff received a letter dated 2 January 1981, from the Acting Director of the Dwight D. Eisenhower Library, Martin M. Teasley, requesting our review for release of the attached CIA originated document: Memorandum, Herbert Scoville, to Director, Central Intelligence, May 11, 1957, (2 pp.) SECRET, sub: Effectiveness of Nuclear Test Detection System.

The attached memorandum has been declassified for your use in preparing an unclassified history of the Atomic Energy Commission.

Attached for your information is CIA's Access Policy Concerning Presidential Libraries (revised 12 July 1977). The usual caveats concerning CIA review prior to declassification, downgrading, or publication of material from CIA originated documents in any UNCLASSIFIED publication apply.

A copy of this communication has been sent to Martin M. Teasley, Acting Director, Dwight D. Eisenhower Library, and to Mr. R. A. Jacobs, Acting Assistant Archivist for Presidential Libraries, NARS.

Sincerely yours,

Distribution:

- 0-Addressee w/att
- 1-Ben Evans, 7E13 Hqs
- 1-HS Chrono ✓
- 2-File
- 1-M.M. Teasley, DDE. Lib
- 1-R A Jacobs, NARS

Dr. Roberta S. Knapp
Acting Chief,
Historical Staff
203 Key Building
Washington, DC 20505

Attachments:
As stated

UNCLASSIFIED

CENTRAL INTELLIGENCE AGENCY

WASHINGTON, D.C. 20505

23 January 1981

Martin M. Teasley
Acting Director
Dwight D. Eisenhower Library
Abilene, Kansas 67410

Dear Mr. Teasley:

The attached copy of my letter to Dr. Jack Holl, Chief Historian, Department of Energy is in response to your request of 2 January 1981, to the CIA Historian asking for review and release to Dr. Holl of the CIA originated document enclosed with your letter.

The document in question is: Memorandum, Herbert Scoville, to Director, Central Intelligence, May 11, 1957, (2 pp.) SECRET, sub: Effectiveness of Nuclear Test Detection System. It has been downgraded to UNCLASSIFIED by the appropriate CIA component for Dr. Holl's use in preparing an unclassified history of the Atomic Energy Commission.

The Classified Document Accountability Record Sheet from your library has been signed and attached.

Sincerely yours,

Dr. Roberta S. Knapp
Acting Chief,
Historical Staff
203 Key Building
Washington, DC 20505

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Attachments:
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CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D.C. 20505

23 January 1981

Mr. Richard A. Jacobs
Acting Assistant Archivist for
Presidential Libraries
National Archives & Records Service
Washington, DC 20408

Dear Mr. Jacobs:

Forwarded for your information is a copy of my letter to
Martin M. Teasley, Acting Director, Dwight D. Eisenhower
Library, concerning disposition of a CIA originated docu-
ment from that library requested by Dr. Jack Holl, Chief
Historian, Department of Energy, for his use in an un-
classified history of the Atomic Energy Commission.

Sincerely,

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Dr. Roberta S. Knapp
Acting Chief,
Historical Staff
203 Key Building
Washington, DC 20505

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As stated

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